Malvastrum angustum, Gray.—Has any botanist ever observed cleistogamy in this plant? While exploring a tract of high rocky ground east of this place the sixth of July, I discovered some twenty specimens of this rare species, most all of which bore seed on the lower branches. But as there were buds not yet expanded upon the top and upper branches, I deferred collecting until the next day, supposing the buds would open and the petals expand. But day after day went by, and as the carpels commenced to form, the corolla withered and remained upon the top of the carpels. Upon being wetted, the petals showed no signs of having dehisced.

Owing to scant material I cannot be sure that my observations were of any worth.

If any other collector can enlighten me on this point I will be very thankful.

From the simple fact that all of my exchanges have only fruited specimens, I would infer that they have never seen the flowers.—Frank Bush, *Independence, Mo.*

Some Notes on Physostegia Virginiana.—An idle hour on the prairie lands of Northern Indiana brought me face to face with acres of this beautiful "False Dragon-head," in full bloom, and I wondered what could be learned of its life in such a causal interview. Nothing can be more graceful than its spikes of rose-colored flowers, but the great variability of its leaves showed what a puzzle to the amateur botanist some of the extreme forms would be, if isolated. In many cases the leaves were very small, linear, and entire. But very soon a new feature attracted me with all the interest of a discovery, for in some way I had never associated it with *Physostegia*. The flowers were strikingly cataleptic, for the slightest touch upon one would push it from its normal position and there it would stay; and so it could be turned indefinitely upon its pedicel, standing quietly in any position within the range of more than half a circle. All the flowers of a thick cluster can thus be thrown toward any side of the stem. A consultation of Gray's Fl. N. Am. shows that this character is attributed to the whole genus. Its object was suggested by seeing a very natural result of this mechanism. A slight breeze, accompanied by a dash of rain, suddenly sprang up, and every flower veered about, like a most sensitive weather-vane, leaving only the back exposed to the wind and rain. The horizontal position of the flowers and their widely opened tubes would have permitted half of them to be filled with water had they not so quickly shifted their direction.

This observation led to a thought as to the method of securing cross-fertilization in this species. The long style rises among the four stamens along the upper part of the swollen tube, being attached to it by an entanglement of hairs, the stigma lying close

against the arching upper lip, while the stamens bend forward and are introrse. The mouth of the tube is so large, that no insects smaller than the humble bees could have touched the pollen, and numbers of them were observed busily at work. The pollen was so ripe and the stigmas apparently so immature, that it looked suspiciously like a case of proterandry, but as only the one condition could be found, this was left as a mere suspicion. Perhaps other observers have decided it.

But for a fine illustration of cataleptic flowers let me commend *Physostegia* to our teaching botanists.—J. M. C.

Mimulus dentatus, Nutt.—Having until recently only a solitary incomplete specimen of this, of Nuttall's collection, I referred it with some doubt to the *M. luteus*, var. *alpinus*, in the Synoptical Flora. But in June last, Mr. Rattan found a plant, exactly like Nuttall's, in Northern California, in the forests of Humboldt and Del Norte counties, where it abounds. It is a good species, which should stand, as I have stated, between *M. luteus*, var. *alpinus* and *M. moschatus*, var. *longiflorus*, the calyx rather that of the latter, and quite unlike that of the former. But now Mrs. Austin sends from Lassan's Peak, a var. *gracilis* of the same, smaller in all its parts, with leaves rather denticulate than dentate, and still more approaching the long-flowered form of *M. moschatus*, but almost glabrous.—A. GRAY.

Linnæa borealis is found by Mrs. Anthony, of Gouverneur, New York, occasionally to produce 3-flowered and 4-flowered peduncles. In the four flowered specimens sent to us the axis of the peduncle is continued beyond the fork for a short distance, and then bears the additional pair of pedicels. Attention being thus called to it, I find 4-flowered specimens in our herbarium, collected long ago by the late Mr. Oakes.—A. GRAY.

Teratological Note.—I found a flower of *Lathyrus palustris*, L., having the ovary divided as far as the middle, having a style for each division. There were 14 stamens, one of which occupied the usual position above the ovary while the rest were united; but the free end of the filaments were separated into two lots, one of 7 and another of 6 to occupy respectively two keels perfect in shape and distinct from one another. On the outer side of either keel were attached slightly the two wings. The standard was very broad. The calyx had the usual two small upper teeth, but there were five instead of three longer teeth beneath. Those who have studied this flower know that both sides of the keel are incurved thus retaining the stamens while the hairy surface on the inner side of the flat style carries out the pollen, at the same time giving to and receiving from the insects the pollen necessary for cross-fertilization. All these arrangements were left uninjured by the strange multiplication of parts.—A. F. FOERSTE, *Dayton, O.*